

**REMARKS**

This Amendment is submitted in response to the Office Action dated April 5, 2006. An RCE is being submitted with this paper to enable full consideration of the amendments presented herein.

**Rejections under 35 U.S.C. § 112**

The term "substantially" was removed from the claims, thus obviating the rejection.

**Rejections under 35 U.S.C. § 102(e)**

Claims 1-30 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Publication 2005/0042975 ("David"). As mentioned in the earlier response, David provides a CMP apparatus with in-situ measurement through an optical measurement. Because of the measurement device is integrated in the CMP apparatus it can only obtain measurements at a fixed point (i.e., at the window in the pad) below a rotating substrate. The sequence of measurements produce an arc scanning path as shown in Figures 2a-2d of David. Multiple arc paths are capable of being made, as shown in Figure 2D. Producing a path other than an arc would essentially require the wafer or pad to spin or move at a slower rate, thus preventing proper CMP operation.

The claims were amended to further define the "path". As now claimed, the path establishes a spiral over the surface of the substrate. Support is found in the as-filed application, paragraph 34, the figures and other locations. The teachings of David, describe an "arc", and the arc would not be capable of defining a spiral over the surface. Further, the claims were amended to define the sensor(s) *directly over* the surface of the wafer. David teaches to place a sensor at a fixed location under a wafer and at a hole location in the pad, which covers the sensor when the hole in the pad is traversing over areas other than the sensor

Reply to Office action of April 5, 2006

location. For at least these reasons, it is submitted that David fails to anticipate the claimed inventions, as amended.

**Rejections under 35 U.S.C. § 103(a)**

Claims 1-30 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,608,495 ('495) in view of U.S. Publication 2005/0046874. One skilled in the art looking at the teachings of David, as combined the other cited art, would not be motivated to derive a "method" that scans a wafer in a spiral manner. Further, the teachings of David, the primary reference, specifically require the sensor to be placed at a fixed location, where it is only allowed to work when a window in a pad moves through the region of the wafer. The teachings of David are more concerned with performing a CMP operation, and for this reason, David would not motivate one of skill in the art to remove the pad and then form a spiral path over the surface of the wafer.

In reference to claim 11, the applicant has amended the claim to define an averaging feature, which is part of one embodiment of the invention. Support can be found at paragraph 49 of the as-filed application. In addition, claim 11 was amended to define the sensor directly over the surface of the substrate. The path is also defined to establish a spiral, where the spiral has greater than one full rotation over the surface of the substrate. Support is found in the as-filed specification and the as-filed drawings. The map data therefore includes some data that is the result of the averaging. This feature, along with the others defined above and claimed in this embodiment, are submitted to be patentable over the cited art of record.

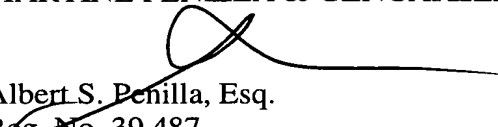
The embodiment of claim 42 further defines the method operation of moving the arm and the associated sensor over the surface of the wafer, without having another structure between the sensor and the surface of the wafer. Additionally, the path is defined to establish the spiral. The teachings of the cited art fail to teach or suggest this embodiment, as no teaching is provided regarding the arm that is moved to assist in defining the spiral path. For at least these reasons, the Applicant submits that the claims are patentable over the cited art of record.

Reply to Office action of April 5, 2006

Further, as the independent claims are submitted to be patentable, the dependent claims are submitted to be patentable for at least the same reasons.

The Applicants submit that all of the pending claims are in condition for allowance. Therefore, a Notice of Allowance is requested. If the Examiner has any questions concerning the present Amendment, the Examiner is kindly requested to contact the undersigned at (408) 749-6901. Also, if any additional fees are due in connection with filing this Amendment, the Commissioner is authorized to charge Deposit Account No. 50-0805 (Order No. LAM2P466). A duplicate copy of the transmittal is enclosed for this purpose.

Respectfully submitted,  
MARTINE PENILLA & GENCARELLA, LLP



Albert S. Penilla, Esq.  
Reg. No. 39,487

Martine Penilla & Gencarella, LLP  
710 Lakeway Drive, Suite 200  
Sunnyvale, California 94086  
Tel: (408) 749-6900  
Customer Number 25920